

From: [Lindsay Newland Bowker](#)
To: [Crawford, Jeff S](#)
Cc: [Loyzim, Melanie](#); [Mercer, Paul](#); [Livesay, Nicholas](#); [Senator Tom Saviello](#); [Bertocci, Cynthia S](#); [DEP, MiningComments2016](#); [Burns, Dave E](#); [Attorney General](#); [Marvinney, Robert G.](#)
Subject: Permanence of Tailings Impoundments : Your Repeated Incorrect Briefings to JSCENR and BEP to the Contrary
Date: Friday, September 16, 2016 9:41:20 AM

Dear Mr. Crawford:

On three occasions briefing the BEP and the JSCENR you have stated incorrectly that tailings impoundments are removed at closure. Deputy Commissioner Loyzims predecessor Heather Parent made this same false statement to JSCENR in the course of the public hearing on the original version of LD750. There is, of course, no transcript of the JSCENR proceedings but as you know we have all of your testimony and Ms. Parents on video so there is an exact record of what you have repeatedly and falsely advised the BEP and the JSCENR.

I see now where you and former Deputy Commissioner Parent may have come by this wrong and crucially consequential impression. In a recent review of the Michigan statute and rules (in connection with our risk assessment of catastrophic failure for mining legal frameworks), I notice for the first time that Michigan stipulates that all structures *including tailings impoundments* must be removed at closure . This language is in the context of a similar but much clearer closure standard than is given in Maine's Statute. Michigan's standard, like New Mexico's , is that the site must be returned to its pre mining state with pre mining function of its eco system.

Without this specific clarity in rule or statute that tailings impoundments must be removed at closure, that is not the norm or practice nor are we aware of any case in history where a tailings facility has been removed at closure. Indeed that mandate in Michigan is problematic technically, operationally and environmentally because tailings have different texture and geochemical properties than what once was solid rock. ***It is widely recognized and understood that an earthen tailings impoundment or any deposition of tailings during operations is permanent and that the placement during operations is the permanent placement.***

In emergency situations or discovered instability of an existing operating impoundment, tailings have been removed and re deposited elsewhere. **In general, however, the deposition and management of tailings should be to a standard that is structurally sound into perpetuity. The tailings themselves should be dry enough and remain dry enough to be structurally sound as a mass in all phases of operation and at closure.**

Your misunderstanding on this important and universally recognized fact about tailings impoundments perhaps explains the complete absence of mandates and guidance in the rule on sound design, risk management and oversight of tailings impoundments which are the single largest origin of catastrophic failure. **The overwhelming majority of such catastrophic failures occur during operations, not post closure or in stand by and the overwhelming majority of catastrophic tailings failures are man made resulting from deviations from best knowledge, best practice, and best technology for design and management.**

It is possible to have a site with no tailings through off site processing of all ore as at Flambeau in Wisconsin where a small open pit was reclosed and recapped at closure with stockpiled spills and overburden.

That of course reduces risks of environmental harm and loss considerably and greatly simplifies the return of a mine site to its pre mining state as mandated in our statute (that, by the way, would not include mowing into perpetuity in a wilderness area).

The Mt Polley Dam Review Committee, charged with examining the causes of failure of the August 2014 failure in British Columbia, declared **slurry deposition "an out moded technology" advocating that the standard for all land based tailings be that they have their own structural integrity rather than relying on the wall of the impoundment.** Pre processing methods like **filter press** pioneered at Greens Creek in Alaska, **Paste Thickening or dry stack can attain this independent structural integrity if managed properly and if the tailings output is viable for these technologies (which is often not the case).** Economically marginal mine plans and expansions, however, cannot afford these technologies and that is a central policy issue any modern legal framework for mining must examine closely and address. In the creation of this statute and these rules that due diligence has not occurred.

Mr. Crawford, having stumbled on this phrase in the Michigan rules with which I know both the DEP and the JSCENR are very familiar, **I now see that your misinformation to BEP and JSCENR (and former Deputy Commissioner Parent's as well) was a lack of basic due diligence and not an intentional misrepresentation.** The facts I lay out above are so plain and so universally known and undisputed that there is still grave fault on DEP's part on "due diligence" but I am satisfied that the misinformation derives only from that lack of even basic due diligence.

In the workings of law in any state, the agency charged with implementing a statute and writing its rules is presumed to have superior knowledge and indeed that is essential. Applying that to the high environmental liability, high public liability risk where

that superior knowledge clearly does not exist and has not been sought is extremely dangerous.

I urge you to immediately rectify your past and very recent mis advice to the JSCRENR and the BEP present and past by a formal letter correcting your mis advice and explaining how you came by that understanding that tailings impoundments are temporary structures used only in the course of operations and then removed.

In light of the gravity of consequence of this lack of due diligence on the part of DEP to the major public liability environmental security risks of metallic mining in a high Sulphur high arsenic VMS deposit I request that DEP stop the clock and withdraw the rule from further consideration while DEP seeks better guidance through the convening of a multi expert technical panel to lay out for all of us the essential foundations of law and policy on metallic mining in volcanogenic massive sulfides, the second highest geological risk group of all metallic mining. I had previously named for JSCENR Co-Chair Dr. Tom Saviello a specific panel composition and all but one, although always fully committed for months ahead had agreed to serve, provided the committee is coordinated by a person independent of DEP JSCENR and all lobbyists who has recognized competence. The work product Bowker Associates had suggested in private correspondence with Dr. Saviello, initiated by him, was a very short piece on essential foundations and mandates which could then be presented to all, DEP, BEP, JSCENR and the public and from which a meaningful workable and effective complete legal framework could be created, again with continuing guidance by the expert panel. Dr. Savillo indicated to me (and others) in private correspondence that he agreed with this approach, had presented it to DEP and had received no reply. If that is so, DEP's actions exceed a failure of due diligence.

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Science & Research In The Public Interest

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